

**MTH 1126 - Test #1**  
SPRING 2019

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Name \_\_\_\_\_

**Show CLEARLY** how you arrive at your answers

1. Compute:  $\frac{d}{dx} [e^{\tan(x)}] =$

2. Compute:  $\frac{d}{dx} \left[ \ln \left( \sqrt{\frac{2x^2+1}{4x^2-2x}} \right) \right] =$

3. Compute:  $\int e^{(5x^2+4x)} (5x + 2) dx =$

4. Compute:  $\int \frac{x^2-1}{(4x^3-12x)^5} dx =$

5. Compute:  $\int \frac{x^2-1}{(4x^3-12x)} dx =$

6. Compute:  $\frac{d}{dx} [\arctan(x^2)] =$

7. Compute:  $\int \frac{1}{\sqrt{25-9x^2}} dx =$

8. Compute:  $\frac{d}{dx} [\operatorname{arcsec}(x^3)] =$

9. Compute:  $\int \frac{1}{5+16x^4} x dx =$

10.  $z = \sec(\arccos(4x))$  Re-write this equation as an equivalent algebraic equation.

**Extra: Wow! 10 points (All or nothing)**

Compute:  $\int \frac{1}{x\sqrt{x^4-4}} dx =$